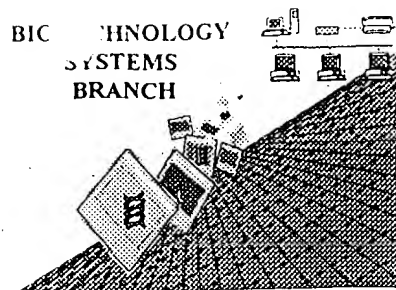


Y. Pak

BIC TECHNOLOGY  
SYSTEMS  
BRANCH



#8  
DmJ  
3-23-01

## RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/619,047A

Source: 1652

Date Processed by STIC: 3-9-01

RECEIVED

MAR 19 2001

TECH CENTER 1600/2003

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY.

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER  
VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND  
TRADEMARK OFFICE WEBSITE. SEE BELOW:

### Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST 25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable-form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

Y Pak

1652

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MAR 19 2001

TECH CENTER 1600/2900

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/619,047ADATE: 03/09/2001  
TIME: 13:15:10Input Set : A:\sequence  
Output Set: N:\CRF3\03092001\I619047A.raw

3 <110> APPLICANT: Leng, Jay  
5 <120> TITLE OF INVENTION: PROTEASE SPECIFIC CLEAVABLE LUCIFERASES AND METHODS OF  
6 USE THEREOF  
8 <130> FILE REFERENCE: 105175-159907  
C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/619,047A  
C--> 11 <141> CURRENT FILING DATE: 2000-07-18  
13 <160> NUMBER OF SEQ ID NOS: 29  
15 <170> SOFTWARE: PatentIn Ver. 2.1  
17 <210> SEQ ID NO: 1  
18 <211> LENGTH: 936  
19 <212> TYPE: DNA  
20 <213> ORGANISM: Renilla reniformis  
22 <220> FEATURE:  
23 <221> NAME/KEY: CDS  
24 <222> LOCATION: (1)..(936)  
26 <400> SEQUENCE: 1  
27 atg act tcg aaa gtt tat gat cca gaa caa agg aaa cgg atg ata act 48  
28 Met Thr Ser Lys Val Tyr Asp Pro Glu Gln Arg Lys Arg Met Ile Thr  
29 1 5 10 15  
31 ggt ccg cag tgg tgg gcc aga tgt aaa caa atg aat gtt ctt gat tca 96  
32 Gly Pro Gln Trp Trp Ala Arg Cys Lys Gln Met Asn Val Leu Asp Ser  
33 20 25 30  
35 ttt att aat tat tat gat tca gaa aaa cat gca gaa aat gct gtt att 144  
36 Phe Ile Asn Tyr Tyr Asp Ser Glu Lys His Ala Glu Asn Ala Val Ile  
37 35 40 45  
39 ttt tta cat ggt aac gcg gcc tct tct tat tta tgg cga cat gtt gtg 192  
40 Phe Leu His Gly Asn Ala Ala Ser Ser Tyr Leu Trp Arg His Val Val  
41 50 55 60  
43 cca cat att gag cca gta gcg cgg tgt att ata cca gat ctt att ggt 240  
44 Pro His Ile Glu Pro Val Ala Arg Cys Ile Ile Pro Asp Leu Ile Gly  
45 65 70 75 80  
47 atg ggc aaa tca ggc aaa tct ggt aat ggt tct tat agg tta ctt gat 288  
48 Met Gly Lys Ser Gly Lys Ser Gly Asn Gly Ser Tyr Arg Leu Leu Asp  
49 85 90 95  
51 cat tac aaa tat ctt act gca tgg ttt gaa ctt ctt aat tta cca aag 336  
52 His Tyr Lys Tyr Leu Thr Ala Trp Phe Glu Leu Leu Asn Leu Pro Lys  
53 100 105 110  
55 aag atc att ttt gtc ggc cat gat tgg ggt gct tgt ttg gca ttt cat 384  
56 Lys Ile Ile Phe Val Gly His Asp Trp Gly Ala Cys Leu Ala Phe His  
57 115 120 125  
59 tat agc tat gag cat caa gat aag atc aaa gca ata gtt cac gct gaa 432  
60 Tyr Ser Tyr Glu His Gln Asp Lys Ile Lys Ala Ile Val His Ala Glu  
61 130 135 140  
63 agt gta gta gat gtg att gaa tca tgg gat gaa tgg cct gat att gaa 480  
64 Ser Val Val Asp Val Ile Glu Ser Trp Asp Glu Trp Pro Asp Ile Glu  
65 145 150 155 160  
67 gaa gat att gcg ttg atc aaa tct gaa gaa gga gaa aaa atg gtt ttg 528

Does Not Comply  
Corrected Diskette Needed

## RAW SEQUENCE LISTING

DATE: 03/09/2001

PATENT APPLICATION: US/09/619,047A

TIME: 13:15:10

Input Set : A:\sequence

Output Set: N:\CRF3\03092001\I619047A.raw

```

68 Glu Asp Ile Ala Leu Ile Lys Ser Glu Gln Gly Glu Lys Met Val Leu
69                               165                               170                               175
71 gag aat aac ttc ttc gty gaa acc atg ttg cca tca aaa atc atg aga 576
72 Glu Asn Asn Phe Phe Val Glu Thr Met Leu Pro Ser Lys Ile Met Arg
73                               180                               185                               190
75 aag tta gaa cca gaa gaa ttt gca gca tat ctt gaa cca ttc aaa gag 624
76 Lys Leu Glu Pro Glu Glu Phe Ala Ala Tyr Leu Glu Pro Phe Lys Glu
77                               195                               200                               205
79 aaa ggt gaa gtt cgt cgt cca aca tta tca tgg cct cgt gaa atc ccg 672
80 Lys Gly Glu Val Arg Arg Pro Thr Leu Ser Trp Pro Arg Glu Ile Pro
81                               210                               215                               220
83 tta gta aaa ggt ggt aaa cct gac gtt gta caa att gtt agg aat tat 720
84 Leu Val Lys Gly Gly Lys Pro Asp Val Val Gln Ile Val Arg Asn Tyr
85 225                               230                               235                               240
87 aat gct tat cta cgt gca agt gat gat tta cca aaa atg ttt att gaa 768
88 Asn Ala Tyr Leu Arg Ala Ser Asp Asp Leu Pro Lys Met Phe Ile Glu
89                               245                               250                               255
91 tcg gat cca gga ttc ttt tcc aat gct att gtt gaa ggc gcc aag aag 816
92 Ser Asp Pro Gly Phe Phe Ser Asn Ala Ile Val Glu Gly Ala Lys Lys
93                               260                               265                               270
95 ttt cct aat act gaa ttt gtc aaa gta aaa ggt ctt cat ttt tcg caa 864
96 Phe Pro Asn Thr Glu Phe Val Lys Val Lys Gly Leu His Phe Ser Gln
97                               275                               280                               285
99 gaa gat gca cct gat gaa atg gga aaa tat atc aaa tcg ttc gtt gag 912
100 Glu Asp Ala Pro Asp Glu Met Gly Lys Tyr Ile Lys Ser Phe Val Glu
101                               290                               295                               300
103 cga gtt ctc aaa aat gaa caa taa / 936
104 Arg Val Leu Lys Asn Glu Gln
105 305                               310
108 <210> SEQ ID NO: 2
109 <211> LENGTH: 311
110 <212> TYPE: PRT
111 <213> ORGANISM: Renilla reniformis
113 <400> SEQUENCE: 2
114 Met Thr Ser Lys Val Tyr Asp Pro Glu Gln Arg Lys Arg Met Ile Thr
115 1 5 10 15
116 Gly Pro Gln Trp Trp Ala Arg Cys Lys Gln Met Asn Val Leu Asp Ser
117 20 25 30
118 Phe Ile Asn Tyr Tyr Asp Ser Glu Lys His Ala Glu Asn Ala Val Ile
119 35 40 45
120 Phe Leu His Gly Asn Ala Ala Ser Ser Tyr Leu Trp Arg His Val Val
121 50 55 60
122 Pro His Ile Glu Pro Val Ala Arg Cys Ile Ile Pro Asp Leu Ile Gly
123 65 70 75 80
124 Met Gly Lys Ser Gly Lys Ser Gly Asn Gly Ser Tyr Arg Leu Leu Asp
125 85 90 95
126 His Tyr Lys Tyr Leu Thr Ala Trp Phe Glu Leu Leu Asn Leu Pro Lys
127 100 105 110
128 Lys Ile Ile Phe Val Gly His Asp Trp Gly Ala Cys Leu Ala Phe His

```

RAW SEQUENCE LISTING                      DATE: 03/09/2001  
 PATENT APPLICATION: US/09/619,047A        TIME: 13:15:10

Input Set : A:\sequence  
 Output Set: N:\CRF3\03092001\I619047A.raw

```

129      115      120      125
130 Tyr Ser Tyr Glu His Gln Asp Lys Ile Lys Ala Ile Val His Ala Glu
131      130      135      140
132 Ser Val Val Asp Val Ile Glu Ser Trp Asp Glu Trp Pro Asp Ile Glu
133 145      150      155      160
134 Glu Asp Ile Ala Leu Ile Lys Ser Glu Glu Gly Glu Lys Met Val Leu
135      165      170      175
136 Glu Asn Asn Phe Phe Val Glu Thr Met Leu Pro Ser Lys Ile Met Arg
137      180      185      190
138 Lys Leu Glu Pro Glu Glu Phe Ala Ala Tyr Leu Glu Pro Phe Lys Glu
139      195      200      205
140 Lys Gly Glu Val Arg Arg Pro Thr Leu Ser Trp Pro Arg Glu Ile Pro
141      210      215      220
142 Leu Val Lys Gly Gly Lys Pro Asp Val Val Gln Ile Val Arg Asn Tyr
143 225      230      235      240
144 Asn Ala Tyr Leu Arg Ala Ser Asp Asp Leu Pro Lys Met Phe Ile Glu
145      245      250      255
146 Ser Asp Pro Gly Phe Phe Ser Asn Ala Ile Val Glu Gly Ala Lys Lys
147      260      265      270
148 Phe Pro Asn Thr Glu Phe Val Lys Val Lys Gly Leu His Phe Ser Gln
149      275      280      285
150 Glu Asp Ala Pro Asp Glu Met Gly Lys Tyr Ile Lys Ser Phe Val Glu
151      290      295      300
152 Arg Val Leu Lys Asn Glu Gln
153 305      310
157 <210> SEQ ID NO: 3
158 <211> LENGTH: 936
159 <212> TYPE: DNA
160 <213> ORGANISM: Renilla reniformis (mutated sequence)
162 <220> FEATURE:
163 <221> NAME/KEY: CDS
164 <222> LOCATION: (1)..(936)
166 <400> SEQUENCE: 3
167 atg act tcg aaa gtt tat gat cca gaa caa agg aaa cgg atg ata act 48
168 Met Thr Ser Lys Val Tyr Asp Pro Glu Gln Arg Lys Arg Met Ile Thr
169 1 5 10 15
171 ggt ccg cag tgg tgg gcc aga tgt aaa caa atg aat gtt ctt gat tca 96
172 Gly Pro Gln Trp Trp Ala Arg Cys Lys Gln Met Asn Val Leu Asp Ser
173 20 25 30
175 ttt att aat tat tat gat tca gaa aaa cat gca gaa aat gct gtt att 144
176 Phe Ile Asn Tyr Tyr Asp Ser Glu Lys His Ala Glu Asn Ala Val Ile
177 35 40 45
179 ttt tta cat ggt aac gcg gcc tct tct tat tta tgg cga cat gtt gtg 192
180 Phe Leu His Gly Asn Ala Ala Ser Ser Tyr Leu Trp Arg His Val Val
181 50 55 60
183 cca cat att gag cca gta gcg cgg tgt att ata cca gat ctt att ggt 240
184 Pro His Ile Glu Pro Val Ala Arg Cys Ile Ile Pro Asp Leu Ile Gly
185 65 70 75 80
187 atg ggc aaa tca ggc aaa tct ggt aat ggt tct tat agg tta ctt gat 288

```

## RAW SEQUENCE LISTING

DATE: 03/09/2001

PATENT APPLICATION: US/09/619,047A

TIME: 13:15:10

Input Set : A:\sequence

Output Set: N:\CRF3\03092001\I619047A.raw

```

188 Met Gly Lys Ser Gly Lys Ser Gly Asn Gly Ser Tyr Arg Leu Leu Asp
189      85      90      95
191 cat tac aaa tat ctt act gca tgg ttt gaa ctt ctt aat tta cca aag 336
192 His Tyr Lys Tyr Leu Thr Ala Trp Phe Glu Leu Leu Asn Leu Pro Lys
193      100      105      110
195 aag atc att ttt gtc ggc cat gat tgg ggt gct tgt ttg gca ttt cat 384
196 Lys Ile Ile Phe Val Gly His Asp Trp Gly Ala Cys Leu Ala Phe His
197      115      120      125
199 tat agc tat gag cat caa gat aag atc aaa gca ata gtt cac gct gaa 432
200 Tyr Ser Tyr Glu His Gln Asp Lys Ile Lys Ala Ile Val His Ala Glu
201      130      135      140
203 agt gta gta gat gtg att gaa tca tgg gat gaa tgg cct gat att gaa 480
204 Ser Val Val Asp Val Ile Glu Ser Trp Asp Glu Trp Pro Asp Ile Glu
205      145      150      155      160
207 gaa gat att gcg ttg atc aaa tct gaa gaa gga gaa aaa atg gtt ttg 528
208 Glu Asp Ile Ala Leu Ile Lys Ser Glu Glu Gly Glu Lys Met Val Leu
209      165      170      175
211 gag aat aac ttc ttc gtg gaa acc atg ttg cca tca aaa atc atg aga 576
212 Glu Asn Asn Phe Phe Val Glu Thr Met Leu Pro Ser Lys Ile Met Arg
213      180      185      190
215 aag tta gaa cca gac gaa gtt gac gca tat ctt gaa cca ttc aaa gag 624
216 Lys Leu Glu Pro Asp Glu Val Asp Ala Tyr Leu Glu Pro Phe Lys Glu
217      195      200      205
219 aaa ggt gaa gtt cgt cgt cca aca tta tca tgg cct cgt gaa atc cgg 672
220 Lys Gly Glu Val Arg Arg Pro Thr Leu Ser Trp Pro Arg Glu Ile Pro
221      210      215      220
223 tta gta aaa ggt ggt aaa cct gac gtt gta caa att gtt agg aat tat 720
224 Leu Val Lys Gly Gly Lys Pro Asp Val Val Gln Ile Val Arg Asn Tyr
225      225      230      235      240
227 aat gct tat cta cgt gca agt gat gat tta cca aaa atg ttt att gaa 768
228 Asn Ala Tyr Leu Arg Ala Ser Asp Asp Leu Pro Lys Met Phe Ile Glu
229      245      250      255
231 tcg gat cca gga ttc ttt tcc aat gct att gtt gaa ggc gcc aag aag 816
232 Ser Asp Pro Gly Phe Phe Ser Asn Ala Ile Val Glu Gly Ala Lys Lys
233      260      265      270
235 ttt cct aat act gaa ttt gtc aaa gta aaa ggt ctt cat ttt tcg caa 864
236 Phe Pro Asn Thr Glu Phe Val Lys Val Lys Gly Leu His Phe Ser Gln
237      275      280      285
239 gaa gat gca cct gat gaa atg gga aaa tat atc aaa tcg ttc gtt gag 912
240 Glu Asp Ala Pro Asp Glu Met Gly Lys Tyr Ile Lys Ser Phe Val Glu
241      290      295      300
243 cga gtt ctc aaa aat gaa caa taa ✓ 936
244 Arg Val Leu Lys Asn Glu Gln
245      305      310
248 <210> SEQ ID NO: 4
249 <211> LENGTH: 311
250 <212> TYPE: PRT
251 <213> ORGANISM: Renilla reniformis (mutated sequence)
253 <400> SEQUENCE: 4

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## RAW SEQUENCE LISTING

DATE: 03/09/2001

PATENT APPLICATION: US/09/619,047A

TIME: 13:15:10

Input Set : A:\sequence

Output Set: N:\CRF3\03092001\I619047A.raw

```

254 Met Thr Ser Lys Val Tyr Asp Pro Glu Gln Arg Lys Arg Met Ile Thr
255 1 5 10 15
256 Gly Pro Gln Trp Trp Ala Arg Cys Lys Gln Met Asn Val Leu Asp Ser
257 20 25 30
258 Phe Ile Asn Tyr Tyr Asp Ser Glu Lys His Ala Glu Asn Ala Val Ile
259 35 40 45
260 Phe Leu His Gly Asn Ala Ala Ser Ser Tyr Leu Trp Arg His Val Val
261 50 55 60
262 Pro His Ile Glu Pro Val Ala Arg Cys Ile Ile Pro Asp Leu Ile Gly
263 65 70 75 80
264 Met Gly Lys Ser Gly Lys Ser Gly Asn Gly Ser Tyr Arg Leu Leu Asp
265 85 90 95
266 His Tyr Lys Tyr Leu Thr Ala Trp Phe Glu Leu Leu Asn Leu Pro Lys
267 100 105 110
268 Lys Ile Ile Phe Val Gly His Asp Trp Gly Ala Cys Leu Ala Phe His
269 115 120 125
270 Tyr Ser Tyr Glu His Gln Asp Lys Ile Lys Ala Ile Val His Ala Glu
271 130 135 140
272 Ser Val Val Asp Val Ile Glu Ser Trp Asp Glu Trp Pro Asp Ile Glu
273 145 150 155 160
274 Glu Asp Ile Ala Leu Ile Lys Ser Glu Glu Gly Glu Lys Met Val Leu
275 165 170 175
276 Glu Asn Asn Phe Phe Val Glu Thr Met Leu Pro Ser Lys Ile Met Arg
277 180 185 190
278 Lys Leu Glu Pro Asp Glu Val Asp Ala Tyr Leu Glu Pro Phe Lys Glu
279 195 200 205
280 Lys Gly Glu Val Arg Arg Pro Thr Leu Ser Trp Pro Arg Glu Ile Pro
281 210 215 220
282 Leu Val Lys Gly Gly Lys Pro Asp Val Val Gln Ile Val Arg Asn Tyr
283 225 230 235 240
284 Asn Ala Tyr Leu Arg Ala Ser Asp Asp Leu Pro Lys Met Phe Ile Glu
285 245 250 255
286 Ser Asp Pro Gly Phe Phe Ser Asn Ala Ile Val Glu Gly Ala Lys Lys
287 260 265 270
288 Phe Pro Asn Thr Glu Phe Val Lys Val Lys Gly Leu His Phe Ser Gln
289 275 280 285
290 Glu Asp Ala Pro Asp Glu Met Gly Lys Tyr Ile Lys Ser Phe Val Glu
291 290 295 300
292 Arg Val Leu Lys Asn Glu Gln
293 305 310
297 <210> SEQ ID NO: 5
298 <211> LENGTH: 8
299 <212> TYPE: PRT
300 <213> ORGANISM: Artificial Sequence
302 <220> FEATURE:
303 <223> OTHER INFORMATION: Description of Artificial Sequence: Protease
304 recognition sequences
306 <400> SEQUENCE: 5
307 Ser Gln Asn Tyr Pro Ile Val Gln

```

p 6

1

5

missing mandatory  $\langle 220 \rangle, \langle 223 \rangle$   
features to explain source  
of the artificial sequence.

**Please Note:**  
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

## VERIFICATION SUMMARY

DATE: 03/09/2001

PATENT APPLICATION: US/09/619,047A

TIME: 13:15:11

Input Set : A:\sequence

Output Set: N:\CRF3\03092001\I619047A.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:551 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22  
L:551 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:22  
L:551 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:22  
L:568 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:23  
L:568 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:23  
L:568 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:23  
L:613 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:26  
L:613 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:26  
L:613 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:26  
L:622 M:258 W: Mandatory Feature missing, <220> FEATURE:  
L:622 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION: